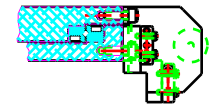
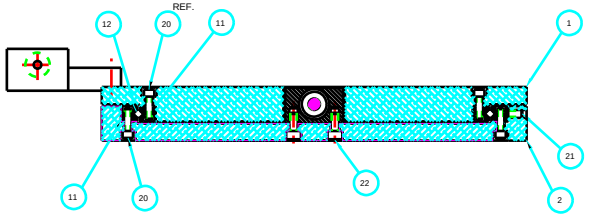


SECTION C-C



SECTION A-A

02 MICROSWITCH 17 WIRE CONNECTIONS TO CONNECTOR 35

PIN #	TERMINAL CW LIMIT	TERMINAL CCW LIMIT
5	C	C
9	NC	---
10	---	NC

C = COMMON TERMINAL
NC = NORMALLY CLOSED TERMINAL

NOTE: THE LIMIT SWITCHES ARE PROVIDED WITH TERMINALS FOR SOLDERING. PLEASE USE KESTER 60/40 TYPE SOLDER. ALSO, USE PVC INSULATED, 80° RATED, 18 GAGE STRANDED COPPER WIRE. DO NOT USE IRRIDIATED PVC INSULATED WIRE.

02 KLINGER STEPPER MOTOR WIRE CONNECTIONS TO CONNECTOR 35

PIN #	MOTOR WIRE COLOR
2	WHITE/RED
3	RED
4	BLACK
7	GREEN
8	WHITE
11	WHITE/GREEN

SHAFT COUPLING INSTALLATION REQUIREMENTS:

1. TO INSURE THAT THE SHAFT DOES NOT SLIP DURING OPERATION MACHINE (2) .5mm DEEP CONE INDENTATIONS ON STEPPER MOTOR SHAFT AT 90° TO EACH OTHER, REPLACE SET SCREWS WITH CONE POINT SET SCREWS
2. TIGHTEN SET SCREWS, INSURING THAT SET SCREWS MATE PROPERLY WITH CONE INDENTATIONS.

LINEAR BEARING ASSEMBLY PROCEDURES:

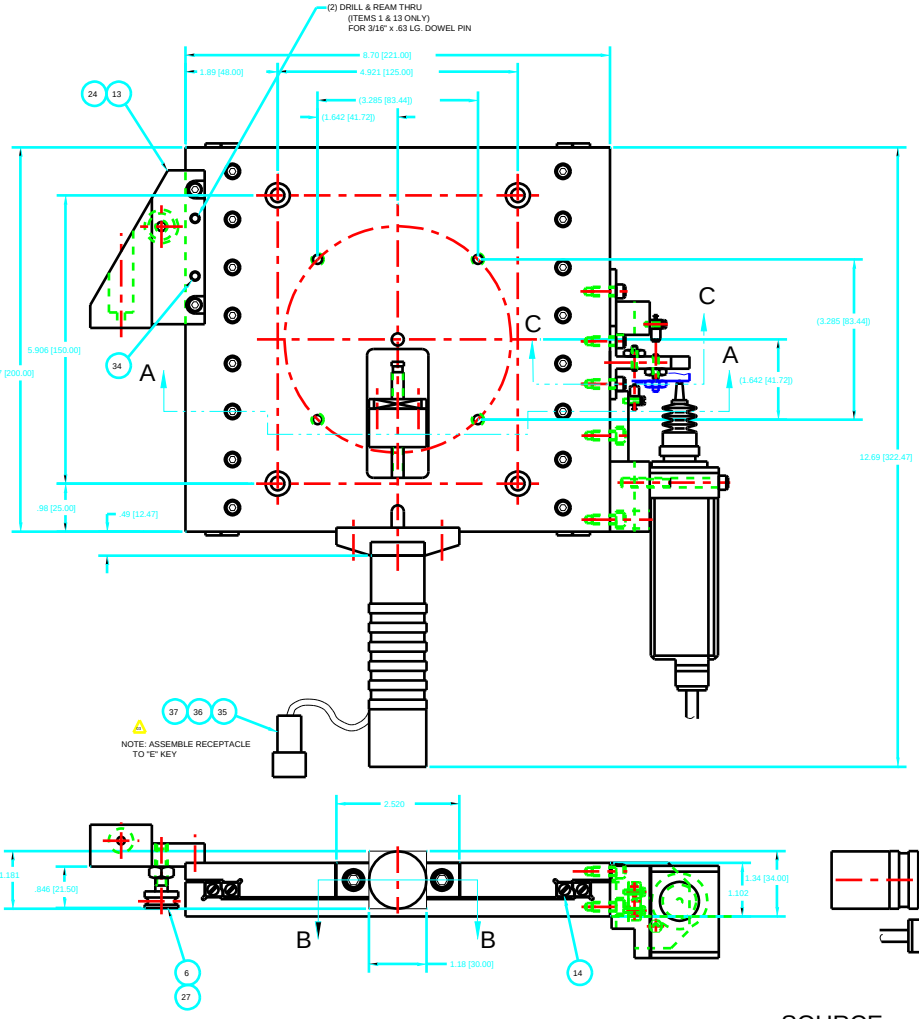
1. PRIOR TO ASSEMBLY, ALL MACHINED PARTS MUST BE FREE OF GREASE, OIL, DUST, LINT AND ALL FOREIGN MATTER. SPECIAL ATTENTION SHOULD BE PAYED TO THE BEARING SURFACES.
2. PRIOR TO FITTING, ALL LINEAR BEARINGS MUST BE WASHED WITH A CLEANING AGENT THEN OILED LIGHTLY UNLESS REMOVED FROM ORIGINAL PACKAGE.
3. FIT BEARING RAILS ONTO THEIR BASE AND SECURE LIGHTLY WITH SCREWS.
4. INSERT ROLLER CAGES AND CENTER ALONG BEARING RAILS.
5. ADJUST BEARING PRELOAD BAR USING SET SCREWS 21 UNTIL PLAY IS FREE, THEN PRELOAD EACH SET SCREW TO APPROX. 19 - 38 lbf. TIGHTEN TO APPROX. 1 in-lb. INSURE THAT SMOOTH ROLLING MOTION IS OBTAINED.
6. SECURE SCREWS ON BEARING RAILS TIGHTLY USING A TORQUE WRENCH.

TECHNICAL SPECIFICATIONS:

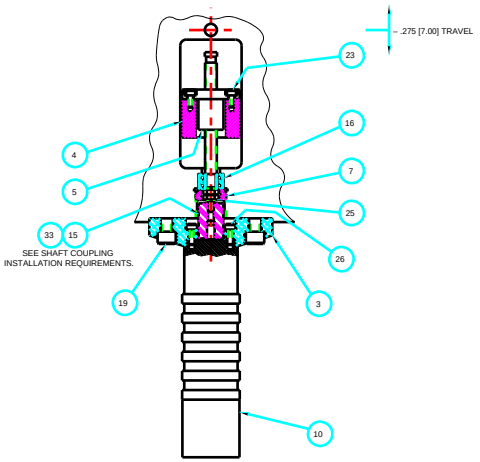
LOAD CAPACITY: 200 lbs. [90kg]
TRAVEL RANGE: ~.25 [6.35mm]
STRAIGHTNESS OF TRAJECTORY: 1 x 10 rad/5mm
RESOLUTION: 0.1um
REPEATABILITY: 2um

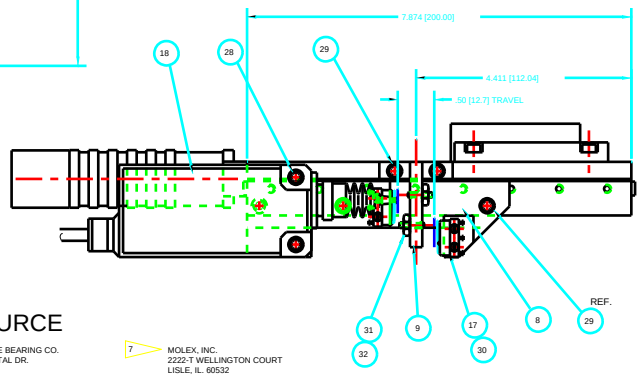
BALL SCREW NUT ASSEMBLY PROCEDURES:

1. FIT BALL SCREW ASSEMBLY TO BALL SCREW NUT MOUNT AND SECURE LIGHTLY WITH SCREWS.
2. INSTALL BALL SCREW INTO UPPER CARRIAGE AS SHOWN IN SECTION B-B. DEFER INSTALLATION IF ITEMS 3 , 10 , 5 TO 11 LATER
3. SECURE BALL SCREW NUT MOUNT TO BASE CARRIAGE LIGHTLY WITH SCREWS.
4. HOLDING THE BASE CARRIAGE STATIONARY, MOVE THE UPPER CARRIAGE SLOWLY BACK AND FORTH A FEW TIMES.
5. POSITION UPPER CARRIAGE SO THAT IT IS FLUSHED WITH LOWER CARRIAGE AND TIGHTEN BALL SCREW NUT MOUNT TO BASE CARRIAGE WITH A TORQUE WRENCH.
6. REPEAT STEP 4. TIGHTEN BALL SCREW ASSEMBLY TO BALL SCREW NUT MOUNT.
7. WITH UPPER CARRIAGE AND LOWER CARRIAGE IN FLUSHED POSITION, INSTALL ITEMS 3 , 10 , AND 5 .



SECTION B-B

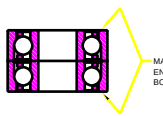




7	37		PINS	#90016MG2	9
7	36		CABLE BACKSHELL	#51004M04	1
7	35		IN-LINE RECEPTACLE	#51910M04	1
	34		Ø187 x .63 LG. DOWEL PIN	STAINLESS STL.	2
	33		#4-40 X .187 LG. CONE PT. SET SCR.	STAINLESS STL.	4
	32		NUT #4-40 UNC	STAINLESS STL.	2
	31		S.H.S.S. #4-40 X .50 LG.	STAINLESS STL.	2
	30		PAN HD SCR. #2-56 X .38 LG.	STAINLESS STL.	4
	29		S.H.C.S. #10-24 X .50 LG.	STAINLESS STL.	5
	28		S.H.C.S. #10-24 X 1.75 LG.	STAINLESS STL.	2
	27		NUT, HEX 1/4-20 UNC-2B	STAINLESS STL.	1
	26		S.H.C.S. M3 x 8mm LG	STAINLESS STL.	2
	25		NUT, HEX #8-36 UNC-2B	STAINLESS STL.	2
	24		S.H.C.S. #10-32 UNC-3A x .50 LG	STAINLESS STL.	2
	23		S.H.C.S. #4-40 UNC-3A x .25 LG	STAINLESS STL.	2
	22		S.H.C.S. LOW HD #10-32 UNF-3A X .38	STAINLESS STL.	4
	21		SCR., SOC. SET #8-32UNC-3Ax.31 LG	STAINLESS STL.	8
	20		S.H.C.S. M4 x 12mm LG	STAINLESS STL.	32
	19		S.H.C.S. 1/4-20 UNC-3A x .63 LG	STAINLESS STL.	2
6	18	DITAST HD15, INVERTED OPERATION	LINEAR ENCODER	RSF ELECTORNICS	1
5	17	111SM1-T	SWITCH SUBMINITURE BASIC	NEWARK ELECTRONIC	2
1	16	S619/5 CTA	BEARING, BALL	GEORGE MULLER NURENBERG	2
2	15	SC-11-3-4	COUPLING, BELLOW 3mm x 4mm	"SERVOMETER"	1
4	14	GBA3	ENDPIECE	"SCHNEEBERGER"	8
	13	P4105090502-820007	ARM, PUSHING	ALUMINUM 6061	1
4	12	AC3X38	CAGE, ROLLER	"SCHNEEBERGER"	2
4	11	R 3 200	BEARING, RAIL	"SCHNEEBERGER"	4
3	10	385 716	MOTOR, GEARHEAD STP. UE31PP10,000	"KLINGER"	1
	9	P4105090502-830008	ENCODER & SW. ACTUATOR	ALUMINUM 6061	1
	8	P4105090502-830007	LINEAR ENCODER & SW. BRK'T	ALUMINUM 6061	1
	7	P4105090502-830006	NUT, BEARING	STAINLESS STL. 440C	1
	6	P4105090502-820005	POST, SPRING RETAINER	STAINLESS STL.	1
	5	P4105090502-830005	ASSEMBLY, BALL SCREW	"THK"	1
	4	P4105090502-830004	MOUNT, BALL SCREW NUT	ALUMINUM 6061	1
	3	P4105090502-830003	MOUNT, MOTOR	ALUMINUM 6061	1
	2	P4105090502-830002	CARRIAGE, BASE	ALUMINUM 6061	1
	1	P4105090502-830001	CARRIAGE, UPPER	ALUMINUM 6061	1
ITEM		DWG/PART NUMBER	NOMENCLATURE OR DESCRIPTION	MATERIAL / SPEC	QTY

PARTS LIST

THIS IS DF ARRANGEMENT TYPE.
THE CONTACT LINES TOWARDS THE CENTER LINE CONVERGE.



MANUFACTURER'S LETTERING (REF.) ENSURE OUT AS SHOWN BOTH SIDES.

BALL BEARING ARRANGEMENT
SCALE: 4X

SOURCE

1. ACCURATE BEARING CO.
1244 CAPITAL DR.
UNIT 1
ADDISON, IL. 60101
1-800-323-6548
FAX: 708-543-2116

2. SERVOMETER CORPORATION
501 LITTLE FALLS ROAD
CEDAR GROVE, N.J. 07009
201-785-4630

3. NEWPORT CORPORATION
1791 DEERE AVE
IRVINE, CA 92714
PHONE: (714) 863-3144
FAX: (714) 253-1680

4. SCHEENBERGER INC.
11 DeANGELO DRIVE
BEDFORD, MA. 01730
617-271-0140
FAX: 617-275-4749

5. NEWARK ELECTRONICS
625 PLAINFIELD RD.
WILLOWBROOK, IL 60521
PHONE (708) 654-8250
FAX (708) 654-8270

6. RSF ELECTRONICS
1110 AMBERWOOD DR.
CRYSTAL LAKE, IL. 60014
PHONE (708) 356-7014

7. MOLEX, INC.
2222-T WELLINGTON COURT
LISLE, IL. 60532
PHONE (708) 969-4550

REVISIONS				
DASH	CHANGE DESCRIPTION	BY	CHKD	DATE
03	90016MG2 WAS 90017MG2	KWC	JB	7/24/96
03	SOURCE #3 WAS KLINGER; 5190M04 WAS 5190M02	KWC	JB	7/24/96
02	ADDED LOW HD ITEM 22; 5mm WAS 25mm	R.K.	JB	1/26/95
02	ITEM 14 WAS GB-3; 28 WAS 2.0 LG	R.K.	JB	1/26/95
02	ADDED ITEMS 34, 35, 36 & 37	R.K.	JB	1/26/95
02	ADDED WIRE SPECIFICATIONS	R.K.	JB	1/26/95
01	REV'D SHAFT CPLG. INSTL. REQ.	PR	JB	2/29/94
01	ITEM 14 WAS GB-A3	PR	JB	2/29/94

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES
TOLERANCES: DECIMAL ANGULAR
SURFACE ROUGHNESS
REMOVE ALL BURRS AND BREAK SHARP EDGES .03 MAX.
SURFACE TEXTURE TO BE IN ACCORDANCE WITH ANSI B46.1
DIMENSIONING & TOLERANCING IN ACCORDANCE WITH ANSI Y14.5
DO NOT SCALE DRAWING

LOG NUMBER: A1067803

THIS DRAWING IS THE PROPERTY OF: ARGONNE NATIONAL LABORATORY

DRAWN BY	DATE	CHIEF DESIGN ENGINEER	DATE
FUHRMANN		D.SHU	7/29/93
CHECKED BY		DIVISION/DEPARTMENT	
J. BARRAZA	7/26/93	T.M. KUZAY	7/29/93
DESIGNER		PROJECT MGR.	
BARRAZA/FUHRMANN			
RESPONSIBLE ENGINEER		APPROVED/RELEASED	
J. BARRAZA	7/26/93		
MATERIAL			

TITLE: ADVANCED PHOTON SOURCE
T2 BEAM POSITION MONITOR
HORIZONTAL STAGE
ASSEMBLY

SCALE 1:1 | SHEET 1 of 1 | SIZE E | DRAWING NUMBER P4105090502-830000-03